

WHAT IS CLAIMED IS:

1. An optical transceiver module, comprising
  - a) a housing comprising a first end and a second end;
  - b) an electrical interface associated with the first end, said electrical interface being adapted to be locked into a receiving cage;
  - c) an optical interface associated with the second end, said optical interface adapted to be connected with one or more optical transceiver components;
  - d) a locating mechanism that restrains the one or more optical transceiver components;
  - e) a locking mechanism that can lock the optical transceiver module to a receiving cage; and
  - f) an automatic-restoring unlocking mechanism comprising a sliding plate, an unlocking lever, and a restoration spring, wherein the automatic restoring unlocking mechanism automatically restores the sliding plate to the normal position after the optical transceiver module is unlocked from the receiving cage.
2. The optical transceiver module of claim 1, wherein the optical interface is compatible with Small Form-factor Pluggable Transceiver MultiSource Agreement (SFP MSA).
3. The optical transceiver module of claim 1, wherein the locating mechanism includes a locating rack; and a retainer for fixing at least one of the optical transceiver components.
4. The optical transceiver module of claim 3, wherein the combination of the locating rack and the retainer accurately locates the optical transceiver component.
5. The optical transceiver module of claim 3, wherein the locating rack is accurately connected to the case body by bolts.
6. The optical transceiver module of claim 3 wherein the locating rack is accurately connected to the case body by being casted onto the case body.

7. The optical transceiver module of claim 3, wherein the locating rack and the retainer shield the optical transceiver components from electromagnetic interfering from each other or from the ambient environment.
8. The optical transceiver module of claim 7, wherein the locating rack and the retainer increase the Electromagnetic Compatibility (EMC) of the optical transceiver module.
9. The optical transceiver module of claim 1, wherein the automatic-restoring unlocking mechanism is completely covered under the upper case cover.
10. The optical transceiver module of claim 1, further comprising a label indicating the direction of the receiving signals or the direction of the transmitting signals.
11. The optical transceiver module of claim 1, wherein the electrical interface complies with the Small Form-factor Pluggable (SFP) agreement.
12. The optical transceiver module of claim 1, wherein the optical interface complies with the Small Form-factor Pluggable (SFP) agreement.
13. The optical transceiver module of claim 1, wherein the electrical interface includes one or more printed circuit boards.
14. The optical transceiver module of claim 13, wherein the printed circuit board includes at least one copper foil strip.
15. The optical transceiver module of claim 1, wherein the housing comprises
  - a case body;
  - an upper case cover toward the first end of the housing;
  - a sheet metal cover; and
  - a lower case cover.

16. The optical transceiver module of claim 15, wherein the sheet metal case cover includes a locking detent for locking the optical transceiver to a receiving cage and one or more position defining holes on each side of the sheet metal cover to lock the sheet metal cover to the case body.

17. The optical transceiver module of claim 16, wherein the case body includes one or more of latches on each side for locking the sheet metal case cover and the lower case cover to the case body.

18. The optical transceiver module of claim 15, wherein the lower case cover includes one or more position defining holes on each side of the lower case cover and one or more leaf springs.

19. A modular optical transceiver module, comprising

- a) a housing comprising a first end and a second end;
- b) an electrical interface associated with the first end, said electrical interface being adapted to be locked into a receiving cage;
- c) an optical interface associated with the second end, said optical interface adapted to be connected with one or more optical transceiver components;
- d) an interchangeable locating mechanism that restrains the one or more optical transceiver components, wherein the interchangeable locating mechanism is specifically designed for locking the specific design of the one or more optical transceiver components;
- e) a locking mechanism that can lock the optical transceiver module to a receiving cage; and
- f) an automatic-restoring unlocking mechanism comprising a sliding plate, an unlocking lever, and a restoration spring, wherein the automatic restoring unlocking mechanism automatically restores the sliding plate to the normal position after the optical transceiver module is unlocked from the receiving cage.

20. The optical transceiver module of claim 19, further comprising a plurality of interchangeable locating mechanisms for locking a plurality of optical transceiver components of different designs.